Specific Virtual Regional Hub Model

This example "mini-network (composed of fourteen actual rural Sites broadly geographically distributed throughout California) is intended to demonstrate cost and feasibility of a statewide implementation. The technical design may be extrapolated to encompass broader regions of the state and thus serves as an accurate example of the proposed statewide Specific-Virtual Regional Hub (S-VRH) architecture.

S-VRH **Overview.** The S-VRH is composed of a single VPN comprising the following:

(1) T1 local loop circuits that connect participant sites that reside within the Primary Carrier's (PC; viz, the Carrier that provides the integrated MPLS VPN) coverage area to the nearest PC Central Office (PC-CO).

(2) For sites that reside outside of the PC's Coverage Area, an alternative connection modality is employed using an Inter-Carrier Frame Relay circuit (or equivalent backhaul modality) between the Local Exchange Carrier (LEC) servicing the region encompassing the target site and the nearest PC-CO, plus a T1 local loop circuit between the Site and the LEC's closest CO (LEC-CO).

(3) Logical interconnection of the PC-CO's over the PC backbone infrastructure, resulting in a single VPN that operates identically to a collection of geographically distributed Regional Hubs that span a broad geographic domain.

(4) Routing over the S-VRH will be via the MPLS protocol and will support all the QOS and other traffic engineering capabilities described in the 'Technical Specifications" section above.

(5) Connection of the S-VRH to the California Telehealth Network backbone via a 4xT1 connection at the Sacramento campus of UC Davis Medical Center. This site was chosen in lieu of a POP for an actual prospective backbone provider, primarily for the convenience of developing pricing. Connection to the actual network backbone provider can occur at any convenient POP location where the MPLS S-VRH provider and the backbone provider have mutual POP's (Sacramento, Sunnyvale, Los Angeles, San Diego are among the locations where most potential vendors have significant regional POP's).

High **Level Design**

(1) The S-VRH encompasses three widely distributed geographic regions of the state that historically have been underserved, including the North Coast (Eureka Area); North Central/Eastern (Plumas County, Lassen County, Colusa County, and Yuba County);and South Central (Southern California).

(2) The S-VRH design constitutes a "flat" network model. All Sites are equivalent and peer-to-peer communication is fully meshed; any site can interact with any other site with equivalent bandwidth and QOS provisions and priorities.

(3) The S-VRH constitutes a VPN with respect to other carrier traffic. The level of network security provided point-to-point meets or exceeds all federal and state requirements, including HIPAA and California State AB 1386 standards.

(4) The S-VRH connections are terminated into a single "meet point" with the backbone provider in Sacramento California, where peering connections are also made for UCDMC, UC Davis, CSU Sacramento, Community College Campuses, CalREN2 and Internet2.

(5) Physical connection between UCDMC and the S-VRH is through a 4xT1 connection, provisioned at 6.0MBPS. Bandwidth oversubscription will be employed as a means of providing cost-effective trunking between the backbone and the S-VRH.

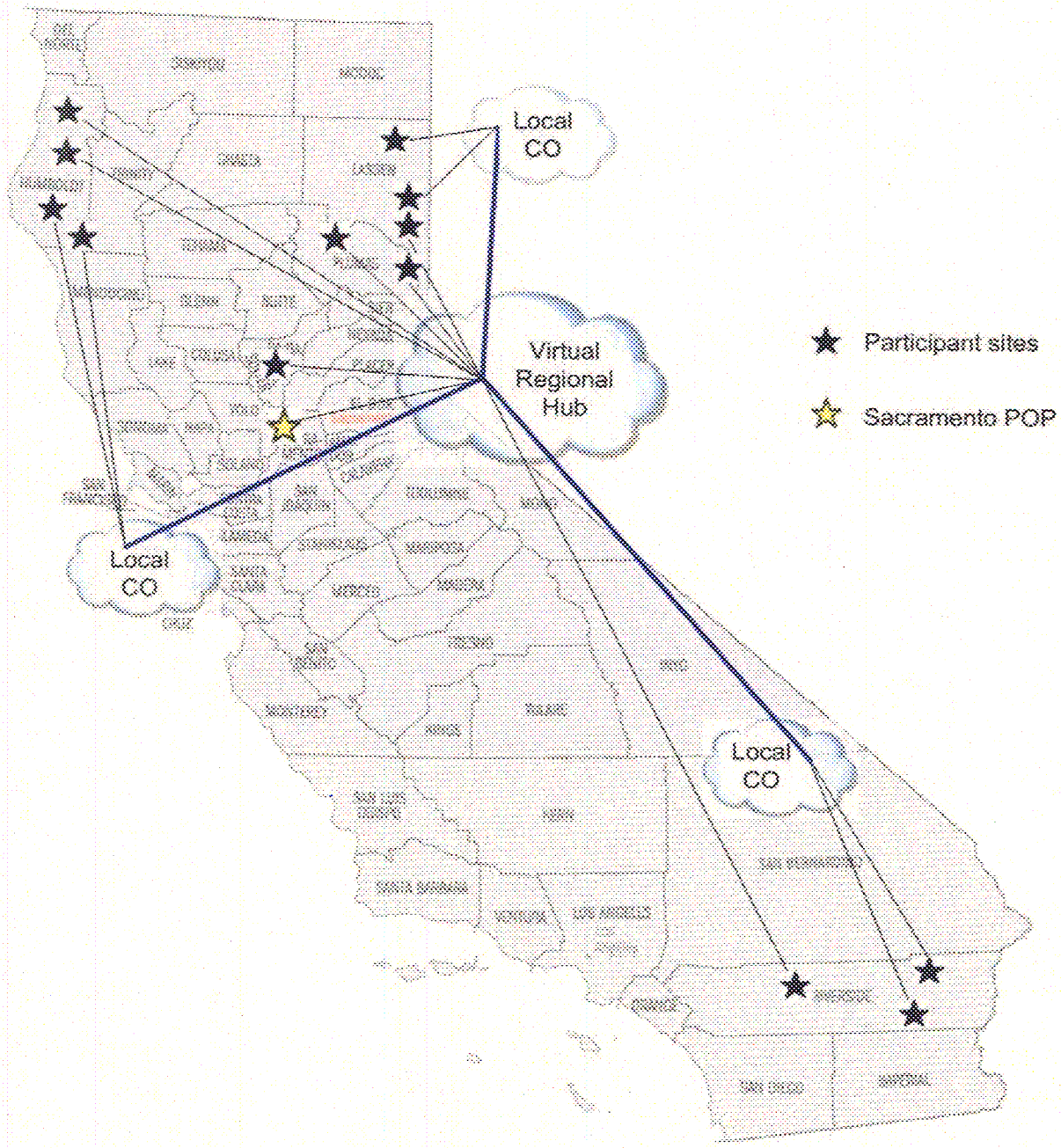
(6) Each site connects to the S-VRH via a border router. In those cases where the site does not possess equipment suitable as a border router, several options are available, including use of a preconfigured border router. An example border router appropriate for the anticipated use is the CISCO ISR 2801 router with integral serial and Ethernet interfaces. A managed router service from the MPLS Network provider can also be obtained. This option has the added advantage of requiring little or no maintenance or problem intervention on the part of the site.

(7) IP addressing is currently under study and not specifically designated in the S-VRH example. One of two addressing schemes can be considered for the California Telehealth Network, either of which can be conveniently overlaid on the S-VRH design, these include: Internet Routable IP addressing (an Autonomous System Number and associated IP address obtained specifically for the California Telehealth Network. Alternatively, each site could individually statically address their S-VRH-accessible equipment. Private addressing may also be employed throughout the S-VRH with Network Address Translation (NAT) services provided at the backbone meet point, permitting transparent communication among S-VRH/California Telehealth Network participants, as well as to all external networks.

S-VRH Cost Model Design. The table below "cost pro-forma" itemizes the cost items for the S-VRH Network, including non-recurring installation costs as well as recurring costs. One possibility is that the California Telehealth Network will take advantage of various "flat rate" pricing agreements that are currently available for MPLS services, but vendor decisions will be made after our initial study phase and after an open bid process.

Regional Sites (Average)		
Non-recurring	**Non-Recurring per Site**	**Non-Recurring Total 14 Sites**
Installation-T1	$ 500.00	$ 7,000.00
Installation (QOS) T I	$ 100.00	$ 1,400.00
Installation (Managed Router) T1	$ 3,000.00	$ 42,000.00
Subtotal	$ *3,600.00*	$ 50,400.00
Recurring	**Yearly per site**	**Yearly 14 sites**
MPLS (Monthly x12) T1	$ 7,548.78	$ 105,682.92
QOS (Monthly x12)	$ 955.68	$ 13,379.52
Manage Router Service (Monthly x12)	$ 4,020.00	$ 56,280.00
Subtotal	*$ 12,524.46*	*$ 175,342.44*
TOTAL COST	**$ 16,124.46**	**$ 225,742.44**
Shared Network Connection to Backbone		
Non-recurring		**Non-Recurring Total**
Installation-Tlx4		$ 795.00
Installation (QOS) T1x4		$ 100.00
Installation (MRS) T1x4		$ 3,000.00
Subtotal		$ *3,895.00*
Recurring		**Yearly Total**
MPLS (Monthly x12) T1x4 6.17 Mbps		$ 20,516.40
QOS (Monthly x12)		$ 3,273.00
Managed Router Service (Monthly x12)		$ 7,200.00
Subtotal		$ *30,989.40*
TOTAL COST		$ **34,884.40**
TOTAL NETWORK EXPENSE		**$ 260,626.84**

Description of the Mini–Network Participant Sites. Following is a narrative description of a few representative sites included in the S-VRH model. The figure below, "Geographic distribution of Mini-Network," illustrates the distribution of the fourteen sites used to develop this example.



Colusa Regional Medical Center is a small independent rural hospital located 1.5 hrs from Sacramento in a rural county with a total population of 19,000 people. Next to the hospital are two primary care clinics with limited onsite specialty services. Patients who require specialty services not available in town are referred to Colusa Regional Medical Center which provides telemedicine for specialty outpatient consultations. The hospital also uses remote fetal monitoring, pediatric emergency telemedicine and distance education via videoconferencing.

The closest city to Colusa is Marysville/Yuba City. Colusa Regional Medical Center's patient referral pattern is to one of two hospitals in Marysville/Yuba City for less critical patient needs and available specialty care or to UCDHS for more critical needs and specialists who are not available locally or in Marysville. The majority of inhabitants in Colusa are of Hispanic origin (50%) and a large number of migrant workers who work the vast number of crop fields reside in this county. The median income is low with 16% of residents falling below the federal poverty level. Only 63% of county's residents have obtained a high school diploma. A large number of uninsured and under-insured individuals reside in this area.

Banner Lassen Medical Center is one of the larger rural hospitals in the Sierra Nevada Region and is part of Banner Health (Corporate Headquarters in AZ). Banner Lassen Medical Center is located on the Nevada-California state line. The closest referral site is the University of Nevada Reno located nearly 2hrs away. Due to reimbursement challenges with California patients, patients are often transferred to hospitals within California. Banner Lassen Medical Center transfers to Redding, Chico, and Sacramento. Banner Lassen Medical Center uses telemedicine for pediatric emergency telemedicine and for distance education. Telecommunications for telemedicine are coordinated through the Northern Sierra Rural Health Network.

K'ima:w Medical Center is part of the Indian Health System. K'ima:w is located in Humboldt County and consults with UCDHS for outpatient specialty consultations. Psychiatry and endocrinology are two of the major telemedicine specialties for this site. K'ima:w consults with UCDHS and another hub site in the region.

Plumas District Hospital is a small rural hospital with two busy outpatient clinics on site. Located in a rural isolated region of Plumas county in the Sierra Nevada's, Plumas District Hospital is a 24 bed, not-for-profit hospital located in a HPSA. The Emergency Department treats approximately 3,600 patients per year. Transports are often difficult from this region given the 3 plus hour transport time by car and weather that often prevent air-transport. Plumas District Hospital uses telemedicine for outpatient specialty consultations, pediatric emergency medicine, remote fetal monitoring and distance education.

Clinicas de Salud Del Pueblo (Brawley) is part of a clinic network in Southern California. This clinic serves as a site where patients receive outpatient telemedicine consultations.

St. Josephs Hospital/Clinic is a larger rural hospital/clinic and is part of the St. Josephs Health System. The hospital uses telemedicine to connect to pediatric sexual assault examiners at UCDHS to assist with exams and evidence collection. They also participate in the Northern California Examiner's meetings through interactive videoconferencing. This is a three-hour regional meeting held on a monthly basis that combines case reviews and discussions, speakers and best practices to create pediatric sexual assault evidence collection standards across Northern California. Prior to videoconferencing this event, only examiners close to Sacramento and the Bay Area were able to participate on a regular basis.

Satellite

We anticipate taking a high availability network approach with path diversity to all sites being considered. This approach will allow for the combination of the best of satellite and terrestrial broadband technologies to form a network with two diverse paths for each network location.

During the network study phase, California proposes to explore the cost and feasibility of implementing a satellite component within the proposed California Telehealth Network. This satellite portion of the California Telehealth Network would overlay and complement the California Telehealth Network's terrestrial network. This is being considered to (1) provide redundancy to the terrestrial network in the event that the terrestrial network is disrupted, by terrorism, natural disasters such as earthquakes, fires and floods, or other events; (2) provide cost effective solutions for connecting health facilities in remote areas, In the wake of Hurricane Katrina, the FCC has recognized the imporlance of building resilient networks. Satellite networks, although taxed by extensive numbers of additional users, remained available and useable throughout the region affected by Hurricane Katrina[1]. FCC Chairman Martin stated, "If we learned anything from Hurricane Katrina, it is that we cannot rely solely on terrestrial communications".[2] Together, the California Telehealth Network coupled with a satellite system could form a mission critical telehealth network designed from the beginning for resilience and high availability.

More specifically, such a satellite component could add:

(1) Access continuity for sites requiring high availability and continuity of operations in the event of terrestrial network outage. Access continuity via satellite combines three critical attributes for a backup solution: path diversity, high speeds, and universal coverage.

(2) A cost-effective platform to deliver current and emerging bandwidth intensive broadcast and digital media, content delivery, and other services with ubiquitous coverage throughout California. Proposed applications include broadcast of production quality video of health care events through live video broadcasts or programs delivered for local on-demand playback, training, digital signage and etc. Digital signage in patient waiting areas can provide wellness and health educational content. In the event of a pandemic, this platform provides the transport infrastructure for dissemination of time critical information to all rural sites. This approach allows the possibility of delivering broadband content into sites at broadband speeds significantly higher than that of a T1 access line while also leaving the site's terrestrial access available for low latency applications.

(3) A scalable broadband platform to provide connectivity to rural sites where terrestrial broadband is not available or prohibitively expensive, thus including sites in the pilot that would otherwise be excluded. Satellite communication systems naturally aggregate user demand and allocate bandwidth based on utilization and need, providing an efficient way of including sites that have emerging telemedicine needs and low duty cycle traffic.

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[1] Before the Federal Communications Commission, In the Matter of Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, EB Docket No. 06-119, Notice of Proposed Rulemaking Adopted June 16,2006, Released June 19,2006

[2] Federal Communications Commission Independent Panel Reviewing The Impact of Hurricane Katrina, Comment of the Satellite Industry Association Public Notice DA 06-57, January 27, 2006

(4) Disaster communications via fly-away and vehicle or trailer mounted terminals to quickly provide broadband connectivity for locations experiencing outages due to catastrophic events and reach back to health care providers for surge capacity in such an event.

(5) Primary features of a satellite component to the network that may be desirable include:

- Terminals: Capable of transmitting and receiving at broadband speeds. For example, transmitting at speeds up to 2 mbps and receiving at speeds up to 30mbps depending on application and space segment provisioning. Support for one or more high-speed 10/100BaseT Ethernet LAN interfaces.
- Advanced Bandwidth Management Capabilities: Ability to easily provision a variety of services.
- Advanced IP Features: Ability of terminals to support built-in router functions, potentially eliminating the need for an external router at satellite only connected sites.
- Data Acceleration: Satellite communication systems are based on satellites in geostationary orbits with one-way propagation delays of 250 milliseconds. Data acceleration features optimize performance of communication over satellite. Highly interactive and delay sensitive telemedicine applications should be carried via low latency terrestrial connections where and when available.
- Network Security: Will include built-in network security features.

Features of the proposed satellite component would include: access continuity for all rural hospitals; digital media platform for all sites; broadband (fill in where no broadband terrestrial access available); and disaster communications (5 transportable units). The satellite component of the network deployment plan would result in a total deployment of roughly 300 fixed terminals and 5 transportable terminals; the plan is proposed to be refined during the study phase.

If funded, UC will study the satellite proposal, issue an RFP for the system, and include the system as part of the final California Telehealth Network. Star and full mesh solutions will be considered as well as additional or alternative features to those listed above. The RFP will be directed at Managed Network Service Providers and vendors can provide: program management (and a single point of contact to the customer (UC) for the project; network implementation and deployment; fault management, including on-site statewide field maintenance; network operations and management; 24/7 customer (UC) support; billing; and real time status, trouble tickets and reports.

Appendix E

Required Waivers

Appendix B - Required Waivers

The Commission requested applicants to identify any rules that would need to be waived in order to implement the pilot program. California believes that two FCC rules, 47 C.F.R. §§54.609 and 54.611, are not consistent with the goals of the pilot program and would need to be waived in part to ensure funds are used for their intended purpose.

The FCC will need to amend or provide a waiver to all approved applicants with respect to 47 C.F.R. §54.609 so that the calculation of support is done consistent with FCC's Pilot Program Order. Rural Health Care *Support* Mechanism, WC Docket No. 02-60, Order (rel. Sep. 29, 2006); Order on Reconsideration (rel. Feb. 6, 2007).

The FCC will need to grant a waiver of 47 C.F.R. §54.611 to the extent it does not allow entities other than telecommunication carriers to receive federal universal service support. The pilot program outlined by the FCC contemplates planning and network design phases where entities that may not otherwise be eligible to receive Universal service support and do not have a SPIN numbers will be providing services and will need to receive support payments directly from USAC. California respectfully requests that USAC issue distinct, non-telecommunication, SPIN numbers to the lead applicant and the entities selected by the applicant to facilitate the processing of invoices, or that some other means be developed by USAC to facilitate such processing.

The FCC will need to grant a waiver of 47 C.F.R. 954.611 to allow USAC to pay selected vendor(s) monthly based on invoiced amounts rather than at the end of the USF contribution year. The lead applicant should not be required to act as a bank by paying the invoices monthly and receiving the credit back from the service provider(s) at the end of the year. Waiver of 47 C.F.R. § 54.611 is appropriate given the total size of the pilot project and the limited funds available to eligible HCPs and the lead applicant. Requiring the lead applicant to effectively procure or make a loan to pay for the services over the course of the year is unrealistic given the number of entities involved in the pilot program and the overall funding required. Waiver of section 54.611 is appropriate given the statutory construction of the section 254(h)(1)(A) of the Act entitles the carrier providing service to an offset, but does not mandate such an offset. Granting of the waiver would provide a great benefit to the pilot program participants, and would be easy to effectuate as the process contemplated is identical to the process used by USAC to administer the Schools and Libraries Support Mechanism.

Finally, to the extent 47 C.F.R. §54.601(b) is implicated by the participation of non-eligible entities, service providers and Health Care Providers will itemize the services for which the Health Care Providers plan to apply for discounts in their contracts/agreements with respect to the participation of non-public and for-profit private providers. California believes that such cost allocation will ensure that universal service support will "apply only to the portion of eligible services used by an eligible health care provider," 47 C.F.R. §54.601(b)(2), so that no waiver is necessary. Such an approach is also consistent with 47 C.F.R. §54.601(d).

Appendix C

Governor's Executive Order S-12-06

Appendix C - Governor's Executive Order S-12-06

State of California - Office of the Governor, Arnold Schwarzenegger
EXECUTIVE ORDER S-12-06

07/24/2006

WHEREAS all Californians should have all appropriate personal health information available to them, and also to their treating professionals in the medical office, hospital, pharmacy or emergency room; and

WHEREAS the aftermath of Hurricane Katrina demonstrated the need for timely, secure and accessible health information, particularly for our nation's most vulnerable – elderly, disabled, and low income populations – and the potentially life-threatening effects of that failure; and

WHEREAS the control of health care costs is key to a long-term strategy of reducing State expenditures and maintaining the ability of California's large and small employers to provide health care coverage to their employees; and

WHEREAS health information technology offers great promise as one means of enabling a goal of affordable, safe and accessible health care in California by: (1) ensuring health information is available at the point of care for all patients while protecting the confidentiality and privacy of the information; (2) improving safety, reducing medical errors and avoiding duplicative and unnecessary medical procedures; (3) improving coordination of care among hospitals, clinics, skilled nursing facilities, home care agencies, pharmacies, physicians and other health professionals; **(4)** providing consumers with their own health information to encourage greater participation in their health care decisions; and (5) ensuring access to specialists in a more timely manner for rural and underserved areas through technologies such as telemedicine; and

WHEREAS the federal Department of Health and Human Services estimates that, in addition to improving the quality of chronic care management and reducing errors, increasing health information technology could reduce duplicative care and lower health care administrative costs, achieving potential savings of $140 billion per year or close to 10% of total health spending in the United States; and

WHEREAS California has established a goal to achieve 100% electronic health data exchange among payers, health care providers, consumers of health care, researchers, and government agencies in the next 10 years; and

WHEREAS State leadership can promote and encourage legislative and regulatory actions, encourage coordinated efforts in the private health care sector, further public and private partnerships for the development of a statewide health information infrastructure, and maximize federal and regional financial participation to support the goal of adopting an eHealth information infrastructure; and

WHEREAS California and other states should collaborate and assume a leadership role nationally in the establishment of health information technology standards and implementation priorities; and
WHEREAS there are numerous different and conflicting standards in collecting and reporting personal

health information within the health care community that currently makes it impossible to properly share patient health care information.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and statutes of the State of California, do hereby issue this Order and direct as follows:

1. The Secretaries of the Health and Human Services Agency and Business, Transportation and Housing Agency and the State Chief Information Officer shall convene a California eHealth Action Forum to solicit input and participation in the development of a state policy agenda to improve health and health care through the rapid implementation of health information technology.

2. The Secretaries of the Health and Human Services Agency and the Business, Transportation and Housing Agency and the Director of the Department of Managed Health Care will devise financing strategies to allocate at least $200 million in investment funds and $40 million in grant monies previously secured from California health plans to benefit the diverse needs of rural communities, medical groups, and safety net providers, and shall also oversee the implementation of a mix of public/private financing alternatives to facilitate rapid adoption and sustainability of health information technology for hospitals, physician groups, physicians, and other health care providers.

3. The Secretaries of the Health and Human Services Agency and the Business, Transportation and Housing Agency, the Director of the Department of Managed Care and the State Chief Information Officer will work with public and private sector stakeholders to develop a sustainable business model for an eHealth network connecting rural health clinics to medical centers throughout the state using telemedicine and other technology.

4. The eHealth Action Forum will develop a comprehensive State policy agenda for health information technology by taking the following actions:

    - Define the goals and values of health information technology for the purposes of State policy and planning.

    - Inventory the various initiatives underway in the State related to health information technology and assess opportunities for building on those efforts, and replicate those projects that prove the feasibility and business case for health information technology and health information exchange.

    - Identify the appropriate role of State government in the development of health information technology and health information exchange versus those activities more appropriately coordinated through other entities.

    - Facilitate statewide adoption of standards and interoperability requirements for e-Health to enable the secure exchange of health information across the State and nation.
    - Identify areas where State laws and regulations hinder, rather than facilitate, adoption of health information technology, and recommend strategies to remove such barriers.

- Identify and develop strategies for the continued protection of confidentiality and privacy of health information in an electronic environment.

- Identify opportunities and strategies for a public/private partnership approach to create financially viable and sustainable business models for health information technology projects in the State.

- Develop options for advancing the implementation of health information technology through the State's role as a major purchaser, provider (State facilities) and regulator of health care services.

- Develop with stakeholders performance metrics to measure the success of the implementation of health information technology throughout the State.

5. The Secretaries and the Chief Information Officer will report back to me within 60 days after the Forum and present an action plan that outlines how the State of California will implement a comprehensive health information technology program by July 1, 2007.

IT IS FURTHER ORDERED that agencies under my direct executive authority shall cooperate in the implementation of this Order. Other entities of State government not under my direct executive authority, including the Insurance Commissioner, the University of California, the California State University, California Community Colleges, constitutional officers, and legislative and judicial branches are requested to assist in its implementation. In particular, the California Public Employees Retirement System is the major purchaser of health care for State active and retired employees and is in a unique position to facilitate the use of health information technology in the delivery of care. Therefore, the California Public Employees Retirement System is requested to participate in the Forum and assist the Secretaries and the Chief Information Officer in the implementation of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.

IT IS FURTHER ORDERED that soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice shall be given to this Order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 24th day of July 2006.

Arnold Schwarzenegger
Governor of California

ATTEST:
BRUCE McPHERSON
Secretary of State

Appendix D

Governor's Executive Order S-23-06

Appendix D - Governor's Executive Order S-23-06

State of California . Office of the Governor, Arnold Schwarzenegger
EXECUTIVE ORDER S-23-06

11/28/2006

Twenty-First Century Government:
Expanding Broadband Access and Usage in California (Revised)

WHEREAS deploying broadband networks and advanced communication services throughout California will enable continued improvements in health care, public safety, education, and the economy; and

WHEREAS a technology-neutral approach to removing barriers to broadband deployment will encourage lower prices and creation of more consumer choices; and

WHEREAS advanced communication services have become central to the financial health of our State, as these services have increased individual worker productivity and connected California businesses to international markets: and

WHEREAS California is ahead of all other states in dollar value of high-tech exports (approximately $50 billion last year alone);[1] and

WHEREAS California boasts more than twice as many high-tech jobs than any other state, and its average high-tech employee wage ($90,600 in 2004) leads the nation;[2] and

WHEREAS California's Web content, e-commerce, networking, telecommunications, entertainment, broadcasting, and computer software and hardware businesses have placed the State at the forefront of the Internet revolution, but to continue to be a world-class leader, California must adopt next-generation policies and practices that spur on further broadband innovation; and

WHEREAS State action is needed to continue investment in, stimulate adoption of, and remove further barriers to the development of world-class broadband networks; and

WHEREAS it is an executive priority to promote widespread access to, adoption of, and new applications for broadband networks and advanced communication services; and

WHEREAS section 709 of the California Public Utilities Code establishes that it is the State's policy to encourage expanded access to state-of-the-art technologies for rural, inner-city, low-income, and disabled Californians; and

WHEREAS the California Public Utilities Commission (CPUC) issued a report on Broadband Deployment in California that, among other items, (1) specifies how the State can be a leader in promoting the availability and use of broadband services, (2) calls for the creation of a California Broadband Task Force, (3) endorses increased use of advanced communication services for government operations and public

access, and (4) recommends limiting rights-of-way (ROW) fees assessed upon broadband providers; and

WHEREAS the Governor's Cabinet – led by the Business, Transportation and Housing Agency (BTH) – convened seventeen meetings on regional economic vitality, and civic leaders in all of these meetings called for increased broadband deployment; and

WHEREAS in accordance with Executive Order 5-5-05, the California Partnership for the San Joaquin Valley has made accelerating the deployment of broadband networks and advanced communication services part of its Work Plan; and

WHEREAS ninety-two percent of California's land contains only fifteen percent of the State's population, and some of the communities in these rural areas lack the multiple telecommunication connections necessary for linking to outside resources during states of emergency, such as catastrophic fires, floods, and earthquakes; and

WHEREAS in accordance with Executive Order S-12-06, broadband networks are needed to create a sustainable eHealth network that connects rural health clinics to other State medical centers; and

WHEREAS the increased State use of broadband networks and advanced communication services will enhance government operations through telemedicine for health care, distance learning for education, and better coordination in the areas of public safety.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and statutes of the State of California, do hereby issue this Order and direct as follows:

1. The State shall create a California Broadband Task Force. This Task Force will bring together public and private stakeholders to remove barriers to broadband access, identify opportunities for increased broadband adoption, and enable the creation and deployment of new advanced communication technologies.

    a. Within thirty days of the date of this Executive Order, the Office of the Governor will name an odd number of members, no less than eleven and no more than twenty-one, to the California Broadband Task Force. These members shall include, but are not limited to, representatives from government entities having a role in infrastructure deployment, information technology, and economic development; representatives from California's private sector technology, telecommunication, and investment industries; and representatives of non-profit organizations. Two of the members shall serve as co-chairs of the California Broadband Task Force. One of these two co-chairs shall be the Secretary of BTH; the other will be selected by the Office of the Governor.

    b. Within ninety days of the date of this Executive Order, the California Broadband Task Force shall provide a preliminary report to the Office of the Governor that identifies administrative actions that can result in immediate promotion of broadband access and usage within the State.

c. Within one year of the date of this Executive Order, the California Broadband Task Force shall provide a comprehensive report to the Office of the Governor and Legislature. This report shall make specific recommendations for how California can take advantage of opportunities for and eliminate any related barriers to broadband access and adoption.

d. The California Broadband Task Force shall pay particular attention to how broadband can be used to substantially benefit educational institutions, health care institutions, community-based organizations, and governmental institutions. It shall coordinate statewide and regional efforts with public and private stakeholders to obtain and maximize grant and loan funding available for broadband deployment and development projects in the State. Discussions with private sector stakeholders will identify further opportunities for increasing investment in state-of-the-art technologies.

2. BTH shall be the Lead Agency for coordinating implementation of policies and practices launched by Sections 1-7 and 9(a) of this Executive Order. Among other responsibilities, BTH shall manage broadband data collection, in consultation with the CPUC, and develop a baseline and metrics for measuring broadband usage and benefits within the State. BTH shall work with other relevant agencies to provide an annual report to the Office of the Governor and Legislature on types and locations of broadband technologies deployed in the State, as well as public agency practices supporting broadband access, adoption, and applications. The first report shall be due within one year of the date of this Executive Order.

3. To encourage public/private partnerships among broadband stakeholders, BTH shall establish a database that identifies current and prospective projects for deploying broadband. A pilot database shall be available for use by broadband providers, State entities, and municipalities within 120 days of the date of this Executive Order.

4. All agencies, departments, boards, commissions, and offices of the executive branch under my supervisory authority (State Agencies) shall place broadband conduit in their infrastructure projects if there is sufficient demand for the conduit. Conduit placed within infrastructure projects shall be designed to be used by multiple government entities and broadband providers.

5. To promote and encourage broadband access, any charge to wired broadband providers for State ROW usage shall be based on the actual costs incurred by the State. The California Department of Transportation (Caltrans) shall propose a new rate structure pursuant to this policy within sixty days of the date of this Executive Order.

6. BTH shall lead a statewide effort to streamline ROW permitting. State Agencies granting ROW access shall adopt policies to standardize and expedite the processing of broadband providers' applications, and within 120 days of the date of this Executive Order, State Agencies shall adopt a uniform application for broadband providers seeking ROW use. State Agencies shall provide BTH annual progress reports on their permitting practices, including how long it takes to process applications. The first progress report shall be submitted to BTH within one year of the date of this Executive Order.

7. BTH shall direct development and use of an interagency best practices guide for resolution of ROW disputes between State Agencies and broadband providers. The dispute resolution process

shall be designed in a manner that promotes broadband access, adoption, and applications. State Agencies shall create the best practices guide within 180 days of the date of this Executive Order, and State Agencies shall be in compliance with this guide within 180 days of its creation.

8. To accelerate deployment of wireless broadband, the Department of General Services (DGS) shall enter into a contract with one or more companies that will place, construct, and maintain wireless broadband equipment on top of select State Agency buildings. State Agencies agreeing to the contract terms will avoid time-consuming separate negotiations and will enable faster build out of wireless broadband networks. DGS shall make every effort to complete this contract process within 180 days of the date of this Executive Order.

9. State Agencies shall lead by example and take the following actions to make State government more efficient and effective:

    a. In order to plan for future broadband deployment projects, State Agencies shall provide information to BTH that allows the Agency to map existing State infrastructure. These assets include, but are not limited to, the following: ROW owned by the State, ROW subject to State regulation, broadband infrastructure owned by the State, broadband infrastructure leased by the State, State buildings (owned or leased), and investment projects relating *to* broadband.

    b. DGS and the Department of Technology Services (DTS) shall facilitate State use of streaming video technologies to broadcast public meetings over the Internet, enable remote access to staff training materials, and give widespread emergency notifications. Within 180 days of the date of this Executive Order, DGS shall enter into a contract with one or multiple companies for offering Webcasting services to State Agencies. DTS shall provide technical consulting and training to State Agencies that elect to use Webcasting services.

    c. To enable the use of cost-effective videoconferencing, DGS shall identify State Agencies with significant field office operations and provide them information on how videoconferencing may increase Agency efficiency.

    d. DGS shall encourage the offering of wireless Internet access in State facilities that are most used by the public. DGS shall identify State buildings that may be appropriate for wireless Internet access and provide them information on the benefits of offering this service. In particular, DGS shall pursue deployment of wireless Internet access in the State Capitol Building, which hosts several hundred thousand visitors each year. DGS shall make a proposal to the Legislature and Office of the Governor for wireless access in the Capitol within 180 days of the date of this Executive Order.

    e. DGS and DTS shall enable the deployment of Voice over Internet Protocol (VoIP) technologies that meet the business needs *of* State Agencies and improve quality of service provided to California residents. Within 180 days of the date of this Executive Order, DGS shall enter into a contract with one or multiple companies for offering VoIP services to State Agencies. DTS shall provide technical consulting and training to State Agencies that elect to use this contract.

IT IS FURTHER ORDERED that State Agencies shall cooperate in the implementation of this Order. Other entities of State government not under my direct executive authority, including the CPUC, the University of California, the California State University, California Community Colleges, constitutional officers, and legislative and judicial branches are requested to assist in its implementation.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.

IT IS FURTHER ORDERED that soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice shall be given to this Order.

[1] AeA, Cyberstates 2006: **A** Complete State-by-State Overview of the High-Technology Industry 42 (2006).

<[2] Id. at 18, 32.

IN WITNESS WHEREOF I have hereunto **set** my hand and caused the Great Seal of the State of California to be affixed this 2

Appendix E

List of UC Specialty Services

Appendix E – List of UC Specialty Services

The University of California's Medical Centers have providers in numerous specialties, including:

Aging / Geriatric Medicine
Allergy / Immunology
Anesthesiology / Pain Management
Audiology
Burn
Cardiology
Corporate / Executive Health Services
Dermatology
Complementary / East-West Medicine
Emergency Medicine
Endocrinology, Diabetes, and Metabolism
Family and Community Medicine
Gastroenterology
Genetics
General Medicine
Hematology
HIV & AIDS
Infectious Diseases
Internal Medicine / Primary Care
Nephrology
Neurology / Neurological Disorders
Nutrition
Obstetrics and Gynecology
Oncology
Ophthalmology / Eye Care
Otolaryngology; Head and Neck Surgery
Palliative Care
Pathology
Pediatrics, General
Pediatric Subspecialties
Physical Therapy and Rehabilitation
Psychiatry
Pulmonary and Critical Care Medicine
Radiation Oncology
Radiology
Rheumatology
Reproductive Endocrinology and Infertility
Speech Pathology
Sports Medicine
Surgery, General
- Bariatric
- Cardiothoracic
- Colon and rectal
- Neurological
- Oncology
- Orthopaedic
- Plastic/Reconstructive
- Spine
- Urology
- Vascular

Transplant Services

Appendix F

Acronym List

Appendix F – Acronym List

Acronym	
ATM-CBR	Asynchronous Transfer Mode- Constant Bit Rate
BGP	Border Gateway Protocol
BTH	Business, Transportation and Housing
CALIT2	California Institute for Telecommunications and Information Technology
CALREN2	California Research and Education Network 2
CBTF	California Broadband Task Force
CCHN	Community Clinics Health Network
CDHS	California Department of Health Services
CENIC	Corporation for Education Network Initiatives in California
CEO	Chief Executive Officer
CETF	California Emerging Technology Fund
CHA	California Hospital Association
CHE	Continuing Health Education
CHFT	California Health Foundation and Trust
CHHSA	California Health and Human Services Agency
CHIP	Coronary Heart Improvement Program
CHT	Center for Health and Technology
CITRIS	Center for Information Technology Research in the Interest of Society
CLEC	Competitive Local Exchange Carrier
CME	Continuing Medical Education
CMS	Center for Medicare and Medicaid Services
CO	Central Office
CPCA	California Primary Care Association
CPUC	California Public Utilities Commission
CSRHA	California State Rural Health Association
CSUS	California State University System
CTEC	California Telemedicine & eHealth Center
CTN	California Telehealth Network
CVHN	Central Valley Health Network
DMHC	Department of Managed Health Care
DNS	Domain Name Service
DS3	Digital Signal 3
DWDM	Dense-Wave Division Multiplexing
EGRP	Enhanced Gateway Routing Protocol
EHR	Electronic Health Record
ePHI	Electronic Protected Health Information

Acronym	
E-RTN	Existing Rural Telehealth Network
FCC	Federal Communications Commission
FTP	File Transfer Protocol
GDP	Gross Domestic Product
GIS	Geographic Information System
HCP	Health Care Provider
HDV	High Definition Video
HHS	Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
HIT	Health Information Technology
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
HP	Hewlett Packard
HPSA	Health Professional Shortage Area
HPSA – PC	Health Professional Shortage Area – Primary Care
HTTP	Hypertext Transfer Protocol
ICU	Intensive Care Unit
IEEE	Institute of Electrical and Electronics Engineers
IGRP	Interior Gateway Routing Protocol
IHS	Indian Health Service
ILEC	Incumbent Local Exchange Carrier
IP	Internet Protocol
IS	Information Services
ISDN	Integrated Services Digital Network
ISO-OSI	International Standards Organization - Open Systems Interconnection
IT	Information Technology
LAN	Local Area Network
LEC	Local Exchange Carrier
MH	Mental Health
MIB	Management Information Bases
MPLS	Multi-Protocol Label Switching
MPLS-COS	Multi-Protocol Label Switching - Class of Service
NAT	Network Address Translation
NIMS	National Incident Management System
NLR	National LambdaRail
NSF	National Science Foundation
NSRHN	Northern Sierra Rural Health Network
OC	Optical Carrier
ODCHC	Open Door Community Health Centers

Acronym	
OES	Office of Emergency Services
OSHPD	Office of Statewide Health Planning and Development
OSI	Open Systems Interconnection
OSPF	Open Shortest Path First
PC	Primary Carrier
POP	Points of Presence
PRIME	Programs in Medical Education
PUC	Public Utilities Commission
PVC	Permanent Virtual Circuit
QOS	Quality of Service
RFC	Request for Comment
RFI	Request for Information
RFP	Request for Proposal
RHI	Rural Hub Infrastructure
RTAC	Rural Technology Advisory Committee
RUCA	Rural Urban Commuting Area Codes
SLA	Service Level Agreement
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol
SSL	Secure Socket Layer
SSTN	Southern Sierra Telehealth Network
S-VRH	Specific Virtual Regional Hub
TATRC	Telemedicine and Advance Technologies Research Center
TBD	To Be Determined
TCP	Transmission Control Protocol
TLC	Telemedicine Learning Center
TRUST	Team for Research in Ubiquitous Secure Technologies
TVSC	Telehealth and Visiting Specialist Center
UBIC	UCLA Biomedical Informatics Center
UC	University of California
UCD	University of California, Davis
UCDHS	University of California, Davis Health System
UCLA	University of California, Los Angeles
UCOP	University of California, Office of the President
UCSD	University of California, San Diego
UCSF	University of California, San Francisco
US	United States
USAC	Universal Service Administrative Company